IN THE CLAIMS

1. (Original) A method for demulsifying water-oil emulsions through ultrasonic action, comprising a step of making water-oil emulsions flow through at least one ultrasonic acting region in a flow direction, characterized in that: within said ultrasonic acting region, a concurrent ultrasonic wave whose traveling direction is the same as the flow direction of said water-oil emulsions is generated by at least one first ultrasonic transducer provided at the upstream end of said ultrasonic acting region, and at same time, a countercurrent ultrasonic wave whose traveling direction is opposite to the flow direction of said water-oil emulsions is generated by at least one second ultrasonic transducer provided at the downstream end of said ultrasonic acting region; and the concurrent ultrasonic wave and the countercurrent ultrasonic wave act simultaneously on the water-oil emulsions flowing through said ultrasonic acting region, so as to demulsify said water-oil emulsions.

2. (Original) The method according to Claim 1, characterized in that, the orientation of the central axis of said ultrasonic acting region is identical with said flowing direction in which said water-oil emulsions flow through said ultrasonic acting region.

3. (Original) The method according to Claim 1, characterized in that, said concurrent ultrasonic wave and the countercurrent ultrasonic wave travel with uniform sound intensity within said ultrasonic acting region; the sound intensity of said countercurrent ultrasonic wave is no lower than that of said concurrent ultrasonic wave.

4. (Currently Amended) The method according to ~~one of~~ Claims 1 ~~to 3~~, characterized in that, the sound intensity of said countercurrent ultrasonic wave is no higher than $0.8W/cm^2$.

5. (Original) The method according to Claim 4, characterized in that, the sound intensity of said countercurrent ultrasonic wave is no higher than $0.5W/cm^2$.

6. (Original) A demulsifying device for implementing the method according to Claim 1, the demulsifying device comprising at least one ultrasonic acting region in which water-oil emulsions flow, characterized in that, at the upstream end of said ultrasonic acting region there is mounted the first ultrasonic transducer for generating a concurrent ultrasonic wave whose traveling direction is the same as the flow direction of said water-oil emulsions, and at the downstream end of said ultrasonic acting region there is mounted the second ultrasonic transducer for generating a countercurrent ultrasonic wave whose traveling direction is opposite to the flow direction of said water-oil emulsions; and a ultrasonic generator is connected with said first and second ultrasonic transducers via ultrasonic power lines, so as to drive said first and second ultrasonic transducers to generate said concurrent ultrasonic wave and said countercurrent ultrasonic wave.

7. (Original) The demulsifying device according to Claim 6, characterized in that, said ultrasonic acting region is of a pipe structure and is connected with other water-oil emulsion pipes in production and processing line.

8. (Original) The demulsifying device according to Claim 7, characterized in that, said ultrasonic acting region is of a pipe structure with a constant diameter.

9. (Original) The demulsifying device according to Claim 7, characterized in that, said ultrasonic acting region is of a pipe structure with a varying diameter.

10. (New) The method according to Claim 2, characterized in that, the sound intensity of said countercurrent ultrasonic wave is no higher than $0.8W/cm^2$.

11. (New) The method according to Claim 3, characterized in that, the sound intensity of said countercurrent ultrasonic wave is no higher than $0.8W/cm^2$.

12. (New) The method according to Claim 10, characterized in that, the sound intensity of said countercurrent ultrasonic wave is no higher than $0.5W/cm^2$.

13. (New) The method according to Claim 11, characterized in that, the sound intensity of said countercurrent ultrasonic wave is no higher than $0.5W/cm^2$.